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Harvard Medical Alumni Bulletin

Volume 24, Number 3

June, 1950



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Reminiscences

II. Surgery in Boston with Dr. Maurice H. Richardson

JOHN HOMANS, '03



DR. JOHN HOMANS

At the time I became nominally Dr. Richardson's second assistant, Dr. Hugh Williams was just ending a service of several years and was much occupied with his own practice. Thus I soon became to all intents the first assistant. Operations were performed at the Corey Hill Hospital, the Deaconess Hospital, St. Margaret's on Louisburg Square (my father's old headquarters) and at a number of small, private hospitals, less often used. They were also performed at private houses, not only in Boston, but in the suburbs and even in far parts of New

England. On particular occasions, an operative day would be arranged in the hospital of some distant town. Dr. Richardson's operating nurse, who was also his office nurse, would take part in these doings, especially the home operating, having prepared the layout of instruments for the particular procedures expected and sterilized the necessary "dry goods." She led a busy life. In addition to this routine work, she kept ready an "emergency" bag for night work and unexpected calls. With this, she might rarely alone accompany Richardson on such occasions, acting, much to her discomfort, as his only assistant.

This was my first experience in operating in private houses. Unless the operation were one of emergency, preparations would have been made the day before by taking down curtains and stretching clean sheets over the floor of a well lighted room. An operating table would have been secured, small tables, with hand-basins, put out; a nurse or nurses would be ready to help in the improvised operating room—subsequently to care for the patient. All this sounded difficult to me, and Hugh Williams made it no easier by telling me of his first experience in a private house. The operating bag was produced and he was expected to get on with the proceedings. "What do I do now?" said he to Dr. Richardson. "I haven't the faintest idea," said Dr. Richardson, and leaned against a door-post. Actually, an operation of this sort was nothing to that performed in a farm house up in the country. There, everything had to be improvised from the moment the operating team arrived on the premises—wash-boiler on the stove for the instruments, ironing board or the

kitchen table for an operating table, basins scalded out, the patient examined, prepared for operation, placed on the table and etherized by the local doctor. I am afraid to say how quickly all this could be done once the team acquired sufficient experience. If the diagnosis was clear—as in the case of a very acute appendicitis—the whole procedure, including the operation, could be accomplished in less than two hours, rarely in little over an hour. Afterwards would come from the family an offer of coffee, and in winter, mince pie.

The routine day was more or less stereotyped. Having been warned the previous afternoon, the assistants and nurse would assemble at 224 Beacon Street in time for an operation in one of the local hospitals at perhaps 8:30. We would find that Dr. Richardson had been up and about since 6:30 or so, writing a paper or answering an early telephone call. We would then pile into one of several automobiles. In 1904, a good deal of experimentation was going on, the gasoline engine not having become fully established as the standard. So Hanson, the chauffeur, might appear in a Stanley Steamer, an electric affair with solid tires, or the large Columbia car, selected by Dr. Richardson because its manufacturers were said to have made the best bicycle. These various vehicles offered a variety of experiences, especially the electric. It was Hanson's custom to come from out of town toward the State House, then turn and come up to Dr. Richardson's curb on the "water" side of Beacon Street. The street was then paved with smooth asphalt, very slippery when wet. It amused Hanson to accomplish the turn with the aid of a skid, since the solid tires took almost no grip on the surface. He became very expert at this maneuver and only decided to abandon it when, on a particular occasion, he made two complete turns instead of one.

Dr. Richardson believed in having his own well-trained anesthetist, as to have to worry about the anesthesia greatly increased the strain of operating. Dr. F. E. Garland and his associate, Mark Rogers, both specialists in diseases of the nose and

throat, became therefore an essential part of the operating team, not only trusted in their own particular line, but valued as counselors. One experience not only illustrates this point but brings out the informal relationship between Dr. Richardson and his assistants. A very sick man suffering from a badly infected knee joint had been much on Dr. Richardson's mind for many weeks. Efforts to drain the knee surgically had not succeeded (the knee being a notoriously difficult joint to manage when infected). The patient was running a violently septic fever and was greatly reduced in every way. Dr. Richardson had finally become convinced that to save life, the leg must be amputated. But on the morning when the operation was to have been performed, he suggested that he might try once more to operate on the knee itself. When we heard this, Garland and I rose up. "Not much you will," we said. "You go on with the amputation." "Do you really mean that?" said he, and when we replied that we certainly did, he went on with the amputation. This was entirely in accordance with his practice. He not only discussed his clinical problems with his assistants but gave them full responsibility for the post-operative care of his patients, however ill they might be; and he backed them up in all they did.

When I was new to the job, he watched me a little more carefully than I supposed, as I afterwards learned. I remember a fussy, elderly spinster who insisted that Dr. Richardson himself should do her dressings, remove stitches, and so on. He did so without remark, and it was very much later that he said, "When you failed to manage Miss So and So, John, I was afraid that you might not be able to make a go of the job, but as this never happened again I decided that you would come through all right."

To return to the operating team and its day, we might be accompanied by Dr. W. F. Whitney, a pathologist, expert in the rapid gross and microscopic examination of tumors and other tissues. Thus there

were a number of us and as the big gasoline touring car had a tonneau entered from behind after the French style and, of course, no top, we were a very imposing group. After several operations at one hospital, we would again pile into the automobile and be off for another, ending up just in time for Dr. Richardson's hour for office consultation, without any lunch. I might have little more to do from then on or might start off on a round of visits, which would last into the evening, to his patients in various parts of the city. At first I did this on foot, and by the electric cars, occasionally borrowing one of Dr. Richardson's automobiles. Later I acquired a car of my own. But I first learned to drive his Stanley Steamer. This powerful little car was steered by a tiller. On one's left hand was the throttle, a lever which was pushed forward to open and drawn backward to close. My first lesson was exciting. Hanson started me off in rather heavy traffic. At one moment our choice lay between pushing ahead between a coal cart and an electric car or coming to a stop. I decided to stop, but as I pushed forward on the brake lever with my foot, I also pushed forward the throttle with my left hand. Of course, the car started ahead violently and happened to jump neatly through the narrow space. "Good driving," said Hanson. "Yes," said I, "I suppose so, but I was really trying to stop!"

The most exhausting day might start calmly, with routine operating, go on to an emergency trip to a distant town, only to end with a second emergency, late in the evening at home—an operation for the performance of which an harassed local doctor might have been for some hours impatiently awaiting Dr. Richardson's return. But instead of any such ending, we might, on coming back to the office at eight or nine in the evening, learn the happy news that the chief thought we had better adjourn to the nearby University Club and dine to the tune of a cheering bottle of champagne.

Though Dr. Richardson was extraordinarily skillful, he was, like many sur-

geons of his day, an irritable operator. Strangely enough, one particular heritage from the past increased unnecessarily, as now appears, the strain of operating. The healing of incisions in the abdominal wall had long been complicated by infection—spoken of as stitch abscess. It is not now necessary to go into all the causes of this accident, but it is certainly true that the effort to avoid the complication by making short incisions—with the idea of cutting down the amount of stitching required to close them—did more harm than good. For the forcible retraction of the opening, particularly that made in the abdominal wall, in order to carry out complicated manipulations within, undoubtedly damaged the tissues about the incision and led to unsatisfactory healing. One of the contributions of the Brothers Mayo to surgery, for example, uninfluenced as they were by tradition, was the use of wide exposures and simple rapid methods of closure. Abdominal surgery in particular was thus made easier and wounds healed far better than before.

Dr. Richardson actually took pride in making some very minute wounds. He would sometimes take out the uninfamed appendix through an incision into which one could not force the middle joint of one's forefinger. He acknowledged that this was a "stunt" but used every possible precaution to make it a safe one. It must be admitted that his irritability and impatience made many difficult abdominal operations severe ordeals for the assistants. When a surgeon frequently begs his assistants to "give him a show," the tendency of the members of the operating team is to feel that they are already treating him better than he deserves. And when he explains that in operating he is "like a dog after a fox" the assistants' subdued thought is that they know just what sort of dog he refers to. All this Dr. Richardson himself recognized. He used to say to me now and again, "What I like about you, John, is that after a difficult operation you always speak to me the next day. Some of my assistants haven't been willing to



OPERATION SUCCESSFUL!

speak to me for several days." He could never forgive a previous one, now long dead, because he was convinced that the man had become so irritated as to allow him to make a false step in an operation. Dr. Richardson felt that the assistant could have prevented the error (which might have had serious consequences but was in fact remediable). He was entirely right in maintaining that his assistants ought not to take his operative reactions seriously. But the situation reminds one a little of the boys' informal military drill in "Stalky and Co." They took turns, it will be remembered, while commanding the School Company, in tongue-lashing each other. The one receiving the abuse tried his best not to show that his temper was roused, but though fully aware of the nature of the game, he seldom succeeded.

Having had experience with many assistants, Dr. Richardson reacted very promptly to their ways. An operation might have been planned for eight A.M. That

meant leaving the office at seven-thirty; to accomplish which the assistants must have arisen at a quarter to seven, breakfasting and hurrying to join the outfit in very short order. But for any one of them, this system of early rising might break down. Instead of the alarm clock, the telephone would rouse him, to hear Dr. Richardson's voice announce that he was starting in ten minutes. No shave, no breakfast. He threw on his clothes anyhow and found the rest waiting unsympathetically on the Richardson door-step. From his associates he heard murmurs such as "Up a little late last night?" but from Dr. Richardson only "Confidence is a plant of very tender growth. Once it begins to wither, it is very difficult to revive."

For all such minor details, the relation between the surgeon and his assistants was pleasant and decidedly stimulating. I have suggested that Dr. Richardson paid a good deal of attention to the opinions of his juniors. This came out in frequent discussions of his patients' problems. Diagnoses were often very difficult, for he was a court of last resort, having to deal with much that others had failed to solve. Sometimes, before an operation was undertaken, opinions would differ so far as to encourage bets. A box of cigars was a favorite stake (which was never paid). No one was ever permitted, however, to bet that a patient would or would not survive, for, said Dr. Richardson, "Someone might be tempted to influence the result unfavorably." His assistants would sometimes think that they had driven him into an untenable position and were about to prove him wrong. Whereupon he would announce that nothing he said counted until the instant of starting the operation. Only then, he maintained, could he be held responsible for his words. Thus the moment of starting to operate was exciting on more grounds than one, and it was marked by certain formalities. The operator, being fully ready, was inclined to rush the assistants and nurse off their feet. And so when I was first assistant, it was my custom to make for and conceal the knife. Dr. Richardson would discover that this

essential instrument was not on the operating table. "Where's that knife?" he would say. No answer, whereupon he would know that I was concealing it. "You give me that knife," generally came next. At this point the operating nurse would give me the nod, and I would produce the knife from behind my back.

One rather dramatic result of Dr. Richardson's way of using the opinions of all concerned, in diagnosing and treating his patients' disorders, came out when he met an as yet unsolved problem away from his home beat. The story of the patient's illness would be fully brought out, an examination made, and then, with the local doctors, we would retire to consult. The youngest must first give his opinion, Dr. Richardson maintained, in order that it should be uninfluenced by anything said by his elders. Only when all, in due sequence, had expressed their views, would he come out with his. On one of these occasions I narrowly escaped a very mortifying experience. I had accompanied my chief to a hospital in a neighboring city. There we saw a patient suffering from an abdominal disorder which failed altogether to register with me. But the story, the temperature chart and the state of the patient seemed to tell Dr. Richardson something very definite. Evidently, he did not wish to hurt the feelings of the local surgeon, who appeared to be completely in the dark, by having *me* come out with the diagnosis. So, saying that we would prepare to operate, he gave me a wink. Then as we scrubbed up, he murmured, "We know what that is, don't we?" "Oh, gosh, yes," said I, having no idea at all. It turned out that tuberculous peritonitis was my particular blind spot. I had failed to recognize it before, but never did so again.

Expeditions to New England towns offered a variety of experiences and, of course, recalled to Dr. Richardson all sorts of adventures of earlier times. We would encounter some very unusual condition, which would lead him to place his finger alongside his nose and say, "Let me now recall from the depths of my recollection,

—." Whereupon he would describe a similar case which he had seen ten years earlier, at White River Junction, let us say. Perhaps in passing through a town, to which a faithful consultant had often called him, he would announce that he had operated upon a patient in this house and in that. "Why don't you drop in and see them?" I would suggest. "Well, yes," he might say, "but they are apparently getting along very well. I guess we won't meddle." And then, with apparent irrelevance he would add, "Your father said to me once, 'Never give a patient your photograph. The family will put it upon the mantelpiece and show it to everyone, telling them that this is *their* surgeon, a great man; a very happy arrangement unless something goes wrong; whereupon they will leave it on the mantelpiece but point out to all and sundry that here is a man to avoid as they would the plague.'"

Mention of my father, of whom Dr. Richardson had been a pupil and was always an admirer, reminds me that on one occasion he operated upon a patient of my grandfather, who had flourished in the middle years of the previous century. The fact that this elderly lady had been brought into the world by the older Homans caused Dr. Richardson to remark to the operating team as he was about to start the operation: "It seems that Dr. Homans' grandfather brought this old lady into the world. How appropriate it would be if the grandson saw her out!" Fortunately, she survived.

Operations in Boston homes and the care of patients there often brought particular sorts of adventure. It was likely to be true that the patients were well-to-do. They wished to avoid a hospital experience and could afford to pay for the luxury of having surgery and the surgeon come to them. The family were apt to be apprehensive as well; by which it arose that the assistants would be asked to "camp on the premises." We would go about our business during the day, but sleep at the patient's house for a few nights. This was a source of special financial reward. Often the assistant would think himself of more

importance than the family actually believed him to be. After such an experience, I came into Dr. Richardson's office one morning, announcing the receipt of a check for a hundred dollars sent me by the patient's father. "Very good," said Dr. Richardson, "but I have one for a thousand, with a grateful letter besides."

Once, when Dr. Richardson had operated for acute appendicitis upon the four-teen year old son of an extremely apprehensive mother, the cry went forth (in the vernacular of the assistants) "Let everything be done." This called of course for my presence in the house over several nights. There were excellent nurses, the boy did uninterruptedly well; and I slept comfortably in luxurious surroundings. As I went downstairs early one morning, I met an assistant to Dr. T. M. Rotch, the great children's specialist of the day. Feeling that the patient was old enough to dispense with the care of a pediatrician, I said to him, "And what are *you* doing here?" "Same thing you are," said he, indicating that both of us were offering assurance at considerable cost. This particular episode had repercussions. The father, who was by no means nervous or apprehensive, was himself smitten some months later with a very acute appendicitis. *He* went to a hospital for operation, a big fellow requiring a prolonged etherization for a rather difficult procedure. On the evening of that day, I found him reclining in bed, smoking a cigar and drinking a Scotch and soda! Of course everything went well, but by the time he had returned home, his son was found to have the measles. "Supposing he should get that terrible disease," was the cry. So there we were again. The junior pediatrician and I found ourselves visiting him daily. I would meet the apprehensive wife and mother, the father standing behind her (she was a very large woman.) "How do you think he is? Do you think he is all right?" she would say. Well, it occurred to me that if the father, who was thought to have had the disease once before, should actually again take it, he would probably go through with it about as calmly as he

had his appendicitis. And so I said that he seemed safe so far, and that I was hopeful no harm would come to him. At this point the father would wink in a confidential manner, indicating his acquiescence to the high degree of style put on by Drs. Rotch, Richardson and the rest of us, with a touch of resignation toward a very considerable bill which he was likely to receive. And after all, why not?

All this relates to the business side of medicine. Doctors realize, of course, that they are expected to be altruistic, but this need not prevent them from being good business men. That they are unlikely to be saving, and seldom provide for their later days, in their relatively short period of prosperity, is well known. But many of them are keen, not only in the technic of conducting their practice but in making themselves known and attractive to prospective patients, and, what is actually more important, to their brother practitioners. Dr. Richardson not only attracted patients directly but through family practitioners all over New England. He wrote many surgical papers and often addressed medical meetings. As Moseley Professor of Surgery, he had reached the top of the Harvard academic tree—and that in his day was the highest in this corner of the country. But he handled his patients with intuitive skill. I remember his telling me of a man, hitherto totally unknown to him, who desired advice about his grumbling appendix. Dr. Richardson said that it should be removed. Apparently the patient had been told this before. He wished to know the operative fee. "I have been to so-and-so," he said, "and his charge was two hundred and fifty dollars; I have been to so-and-so, and his fee was five hundred dollars. What will you charge me?" "A thousand," said Dr. Richardson, without a moment's hesitation. This was at once accepted. The patient only wanted to be sure that he had secured the best.

I can see no harm in telling an anecdote of quite another sort. Dr. Richardson was generous in treating patients in very moderate circumstances, feeling that every one who needed his services should get them,

even if they could pay very little. A rather attractive, single girl once consulted him about a small hernia. He told her that she should be operated on. She was a working girl, she told him, and sang in a chorus. "What shall I have to pay you?" she asked. "Oh," said he "I should not like to charge more than fifty dollars to a girl who works for her living." "But I can pay more than that," she said. "Well, then," said he, "one hundred and fifty." "Oh, I can pay more than *that*," said the girl. "Very well," said Dr. Richardson, "two hundred and fifty." There the raising of the ante stopped; whereupon the attractive young lady took luxurious accommodations in the most expensive hospital available. It appeared that there were chorus girls and chorus girls, but in any case Dr. Richardson could hardly complain that this one had altogether abused his generosity, though he felt that perhaps his shrewdness had been at fault.

In another instance, the joke was altogether on him, as he agreed. He used, indeed, to tell this story on himself. He dined occasionally with a merchant's club, liking a good dinner and enjoying the contact with men decidedly different from his usual acquaintances. In the course of one evening, when a group was discussing the habits of financiers, something was said of the late Mr. Thomas W. Lawson, then very much in the public eye. Someone questioned whether he paid his bills. Dr. Richardson rose at once to his defence. "He paid *my* bill," he announced. "Oh, yes," said the man, "he always paid his butcher's bill."

Dr. Richardson was very generous to his assistants. He paid us a salary which increase with our experience. And not only were we allowed occasional special fees but we were able to make the acquaintance of many influential doctors and laymen. I have tried to give an impression of a great New England surgeon, and of the sort of life he led, so characteristic of his day. In so doing, I may have given the impression that such a surgeon had his peculiar ways, that allowances must be made for him and, by inference, that his assistants were as a



Maurice Richardson "sitting on the wheelbox of his 21-foot catboat, the Kingfisher, watching the luff of the sail and snuffing the air for the smell of bluefish. Long before the skiff touched the float, those on the piazza could tell that luck had been good. The wide smile beneath the long moustache could mean but one thing. Blue fish in the fishbox!"

rule knowing, tolerant and well behaved. If I have overdone this picture, it will only be fair to speak of a conversation which I held in after years with a nurse who had assisted in the operating room of a hospital chiefly frequented by the Richardson team. We were on our way to a wedding and had reached rather confidential terms. One of the duties of an operating room nurse is to tie on the sterile gown of the surgeon and his assistants. She fastens the gown snugly but not tightly about their backs and behind their necks. This particular nurse thought I might like to know that every time she had tied the tapes behind my neck, she had said to herself, "If this only were a drawstring!" Thus it would seem that the assistants might be passing

along some of the pressure from above, and might even be exhibiting something less than perfect behavior.

During my years with Dr. Richardson, I lived at home with my family. Having few expenses and being unmarried, I was relatively prosperous, as might have been deduced from the quality of the automobiles I was able to purchase. I started out with an "Acme" two-cylinder car having its gear shift on the steering post, much as at present, except that the shift was "progressive" and changing gears was apt to be accompanied by a good deal of clashing.

In those days engines were much easier to get at than now. I was everlastingly tinkering with mine. The intake valves operated by a spring mechanism, not mechanically, and made a wheezing sound as the gas entered the firing chamber. Later I graduated to a Locomobile runabout, a very stylish vehicle having a chain drive which made a most impressive sound. I was very proud of this car. Indeed, it was through my pride in its appearance that I was led into the last fight of my career. I was on my way to East Boston to visit a patient of Dr. Richardson. The light gray car was brightly polished; and I was dressed accordingly—in a light grey suit, new straw hat and, I am afraid, a pink shirt with grey tie. As I drove cheerfully toward the ferry slip, I saw that if I hurried a little I could reach a place well forward in the line. It appeared to the driver of a truck, loaded with iron bars and drawn by a pair of horses, that I was squeezing in ahead of him. In any case, he expressed his disapproval of my outfit by driving on until his pole threatened to scratch the sloping back of my precious runabout. I remonstrated. He registered indifference. I suggested that he should back up a little. He wasn't backing up for anybody. I suggested that I was perfectly willing, even anxious, to back his horses up myself. He lashed at me with his whip. I volunteered to climb upon his driver's seat and throw him off. He came down, removing his coat. By this time a group of drivers of many teams had gath-

ered. It occurred to me that I was in for trouble and in unsatisfactory surroundings. I tried a touch of appeasement. No go. The truck driver came on. He was taller than I, but as he didn't look too terrible, I thought I might gain by starting things. So I hit him as hard as I could. Instead of reaching his jaw, I hit him just under the eye. We then went at it for a short round. He bruised my upper lip but otherwise no more damage was done. Indeed, just as we were settling down to a sort of second round, a little bit of a man stepped in between us saying, "There's been enough of this." We also thought so, mounted to our respective seats and drove onto the ferry boat. Perfect timing all round, but even then I wondered if I were in for more trouble. Much to my surprise, I was not. The other drivers apparently thought that the bind was on my opponent, whose eye was now swelling up. So they jollied him; and a ferry boat official so far unbent as to say to me, "You did a good job, young fellow; I didn't think you had it in you." Undoubtedly it was the pink shirt that made me look bad; but I have realized now that I was fortunate in not being able to hit hard. If I had really done any damage, the crowd would have jumped on me. I was lucky also in running into a young fellow about as incompetent as myself.

Speaking of automobiles, the dealings which the drivers of those days had with the police were somewhat different from those of today. I myself was caught one summer evening on Tremont Street alongside the Common—it was almost deserted at the moment—in a formal police trap set up over a measured course, for driving twenty-five miles an hour. When I gave my name as a doctor, the officers, who seemed to be having rather a dull evening, wished to know whether I was going to see a patient. "Oh, no," said I, "I am taking a friend to a train." Whereupon they said that they would let me go "for telling the truth." Apparently, doctors were given special treatment. There was a story at that time of another surgeon,

Dr. J. L. Goodale, who was stopped by the police one morning on his way to an operation. This conversation is said to have taken a peculiar turn. On being told how fast he was driving, Dr. Goodale remarked that he was on his way to the Corey Hill Hospital. "I am very absent minded," said he, "and I suppose I was thinking of the operation which I am going to perform. I must have been driving too fast—thank you very much for calling it to my notice." And drove on, without protest from the officers, who appear to have been unable to think of a come-back.

After three years with Dr. Richardson, his son, Edward, came along—afterwards to be the third holder of the John Homans Professorship—and I necessarily graduated. At this time the choice of Dr. Richardson's successor as Moseley Professor of Surgery at

Harvard was under consideration. Dr. Richardson felt that the choice was likely to fall upon Dr. Harvey Cushing of Johns Hopkins. Cushing, many years earlier, had passed brilliantly through the Harvard Medical School and had made a name for himself as a House Officer at the Massachusetts General Hospital. He was now becoming known as a pioneer in the surgery of the central nervous system, was possessed of a dynamic personality and seemed likely to have a great career. Dr. Richardson gave me a letter to him and I was off to Baltimore. This was in the early autumn of 1908. Dr. Cushing found a place for me in his laboratory; I secured lodgings at 807 St. Paul Street and prepared to spend the next year in surroundings as different as possible from everything I had ever known.

Harvard's Contribution to Epilepsy

WILLIAM G. LENNOX, '13

Eighteen years ago, the Harvard Medical Alumni Bulletin carried an article by Stanley Cobb and myself that reviewed the investigations of epilepsy carried out in the previous ten years and pleaded for continued support of the Harvard Epilepsy Commission. The prediction of benefits to accrue from further work seems, in retrospect, unduly conservative, even for the depressed year of 1932. Therefore, a second record of past progress and of future planning seems in order. This article is based on a report recently made to Dean Berry.

In biology, study of a simple small organism may at times prove more revealing than study of a large, complex organism. By the same token, this Epilepsy Division—small and discrete in terms of personnel and budget, but long-term in operation—may be used as one example of the possible scientific and social benefits to be derived from a given investment of money. The study was started in 1922, so that interest throughout the past 28 years

has been centered on one disease, epilepsy—a disorder with broad human as well as medical interest since the attending handicap is as much social as physical. In addition, the study of the brain more than the study of any other organ of the body carries the student into the wide field of human relations. Thus, a disordered heart or kidney impairs the productivity of the individual, but a disordered brain can disrupt a whole community or nation.

History of the Venture. A Venture or Program rather than a Division is discussed because the subject cannot be contained in a departmental pigeonhole. Investigation of convulsions invades all the pre-clinical departments of teaching, and proper medical and social therapy involves education for many types of clinicians and also for the general public. Hence, the activities and affiliations of this division have been roving in nature. Work has been carried on successively in the medical, neurological, psychiatric and pediatric

wards and clinics of four of our teaching hospitals, with forays into state epileptic colonies.

In retrospect, the events that initiated the project seem providentially arranged. The elements of the beginning include: a child severely epileptic, "cured" for a season by osteopathy and starvation; a young and recently appointed professor of neurology eager for a challenging task; another recent Harvard graduate on furlough from the Rockefeller Medical School in Peking, with a compelling interest in epilepsy. The child's father, desperate for explanation of the dramatic, though temporary relief of seizures by starvation was advised by The Rockefeller Foundation that Professor Cobb of Harvard was the person best qualified to investigate this disease. He chose me to assist. The father and a fellowship grant provided the initial financial fuel. The task of fund raising was later assumed by the Harvard Epilepsy Commission (now disbanded).

Through the years, only a token portion of expenses, certainly less than ten percent, has come from the funds of school or hospital. Financial aid has been from individuals, foundations and lately the Federal Government. The principal friend and supporter has been The Rockefeller Foundation which over a period of 14 years has provided grants that total approximately \$250,000. At present the expenditures for which the head of the Epilepsy Division is held responsible approximate \$115,000. a year. Most of this sum, \$75,000., is for the conduct of the National Veterans Epilepsy Center at Cushing Hospital, operated by the University under contract with the Veterans Administration.

Personnel is of even greater importance than money. With eyes on the ministry and the mission field, my own pre-medical and research training was sadly deficient. In fact, I entered the Medical School without college credits in physics, chemistry, French or German. (Professor Folin, asked to decide about admission, remarked simply, "You look as if you could work.")

The more technical scientific contributions from this study are therefore due to the genius and unremitting work of the principal collaborators, Dr. and Mrs. F. A. Gibbs. (Dr. Gibbs is now an Associate Professor at the University of Illinois.)

Scientific Benefits. The first fourteen years of this study did not yield sufficient positive results to encourage continuation of efforts, a fact that gives point to the need for support not conditioned on immediately favorable results.

To date, two books and more than 200 articles in medical publications are the direct visible product of funds expended. The best yielding investments of time and money have been in four fields:

First, studies of the cerebral circulation and of the metabolism of the human brain, through analysis of the blood entering and leaving that organ.

Second, demonstration of the value of the electroencephalogram in the study and treatment of epilepsy.

Third, evaluation of anticonvulsant drugs, pioneered by Tracy Putnam and Houston Merritt with their dilantin. Other drugs found effective in epilepsy and now generally accepted have been mesantoin, tridione and paradione.

Fourth, emphasis by Cobb on the influence of emotional factors as an important contributing cause or consequence of seizures, and collection of a mass of data about the thousands of patients studied.

Altogether, this Venture, either directly or even more importantly through stimulation of the interest and work of others, has contributed measurably to a knowledge of the working of the human brain, and has revolutionized the understanding and the treatment of epilepsy. One stimulating enterprise has been the reorganization in 1935 of the International League Against Epilepsy, the American chapter of which now numbers more than 600 members. Involved also has been the editing of the journal *Epilepsia*, which abstracts the world literature on the subject of convulsions.

Social Gains. The prime object of this Venture has been a search for causes of seizures. However, discoveries, like precious metals secured in mining, must be put into everyday use. Many of the books and articles mentioned have been for that purpose—the instruction of doctors in the use of newer methods of diagnosis and treatment. But, of what use is control of seizures if the person is unable to secure education or employment because of age-old fear and misunderstanding of epilepsy on the part of the public? Therefore, our group organized a lay organization (now called the National Epilepsy League) for the double purpose of educating the public and encouraging the support of research.

Profits from "Venture" Capital. Research into the deep problems of medicine, like, for example, gold mining, is a gamble. As with the use of "venture capital" in industry, money may be expended without any important return. Such "calculated risks" have to be taken; yet, in the long run medical research must pay for itself in terms of dollars and cents. Such accounting is difficult, yet in the case of this epilepsy project, certain rough samplings of costs and profits can be made. In 1922, when bromide treatment and a general defeatist attitude about epilepsy prevailed, probably the majority of persons subject to seizures were supported either by the family or by the public. With the use of present-day methods of medical and social treatment, the direct or the inspired results of the work of this Venture, a large majority of genetic epileptics can be substantially relieved of seizures and given social acceptance. Each of these can be a social asset instead of a social liability.

If we make the modest assumption—namely, that given the full benefit of present-day knowledge one epileptic in ten will become self-supporting instead of dependent, with consequent saving of \$2,000 a year for thirty working years, then total returns for the money expended seem of New Dealish magnitude. For one-tenth of the 300 children in our present

Seizure Clinic at the Children's Medical Center, the saving would be nearly \$2,000,000. (annual cost of clinic \$19,000.); for one-tenth of the estimated 50,000 veteran epileptics, the sum would be \$600,000,000. (but maintenance in a Veterans' hospital costs not \$2,000, but more than \$5,000 annually); for one-tenth of the estimated 600,000 epileptics in the United States, the saving would approach four billion dollars. If these amounts should be cut in half, they would still be very large in comparison with the money expended by research workers without as well as within the Epilepsy Division.

The electroencephalograph and the newer drugs are used throughout the world of modern medicine, so that the amounts mentioned, if projected on the countries now receiving Marshall Plan Aid, would in time dwarf such aid. In contrast, research funds spent by our small group (excluding the recently inaugurated research project for veterans) have not exceeded \$400,000. or approximately \$14,000. a year for the past 28 years.

Such cost accounting does not include the new generation of epileptics constantly arising, nor possible savings from the prevention of epilepsy; nor does it make any estimate of the volume of tears no longer shed.

Program for the Future. In spite of past gains, the final explanation of paroxysmal seizures and the final "cure" of them is in the distant future. For Harvard to maintain leadership in this area, the various items of the present program should be more fully developed. These are:

1. Laboratory research into the mechanism of seizures and into the increasingly technical and difficult field of neurophysiology and bioelectronics. At present, the National Veterans Epilepsy Center at Cushing Hospital is a principal representative of the University in this field. The Center is not integrated into the activities of the Medical School, but could be, to the advantage of both the Center and the School.

2. In co-operation with a hoped-for Division of Human Heredity, and with the Department of Preventive Medicine, long-term study of the genetic and the acquired conditions that cause epilepsy and investigation of eugenic and other methods of prevention.

3. In co-operation with its teaching hospitals, maintenance of epilepsy clinics that will be for diagnosis, clinical research, teaching and treatment; pilot plants that will train doctors, social workers and technicians for work in clinics in other parts of the country.

4. In co-operation with other hospitals or social agencies, provision for the early treatment and the education and training of young persons of fair to good intelligence—a group too often allowed to drift into chronic epilepsy and dependency.

5. In co-operation with the National Epilepsy League and Harvard Law School, an attack on outmoded and discriminatory laws that concern marriage, immigration, workmen's compensation, education and rehabilitation, and in co-operation with both the Physicians' and the Lay Leagues, and with various agencies of public education, efforts to dispel the ignorance, the gloom, the secrecy and the prejudice of public opinion that now envelops the majority of epileptics both here and everywhere.

In order to provide leadership and co-ordination, a committee or commission, representing physiology, neurology, preventive medicine, social service, business and perhaps labor should be organized as an advisory body. The active, full-time conductor of the program should be a scientist-physician experienced in epilepsy, but with broad interests, able to attract associates possessed of various gifts. He should have a flexible or roving commission, though his "legal residence" would be the Department of Neurology.

As for budgetary needs, dividends per dollar invested are greater from a small, compact group than from a large one. The Medical School already holds the Charles R. Holman and the William Sturges Bigelow and Marian Adams Curtis funds given specifically for research in epilepsy and together yielding a total of about \$7,200 a year. These guarantee a degree of permanent activity. However, an additional yearly sum of from \$10,000 to \$20,000 should be available in order to carry the School's share of the total venture for a further period of ten years, the situation then to be re-evaluated. This is a matter of some urgency because the Rockefeller grant and my own scholastic service will end a year hence. The issue for the Division of Epilepsy, therefore, is not expansion, but survival.

The Stethoscope



Spring has burst upon the Medical School precipitously. Now is the time of examinations: general examinations for the fourth class, other examinations for the rest of the School and a sense of relaxation for everyone as each final examination ends. Class Day is to be held on the last Saturday in May with valedictions from the Dean of the Medical School and the Dean of the School of Dental Medicine, an address by Conrad Wesselhoeft, HMS 1911, appointed for the task by the unanimous acclaim of the Class, and announcement of prizes and awards.—This year the Henry Asbury Christian Prize went to T. Franklin Williams, selected by a special committee for his scholastic record in the school and for his promise in the future. He is to intern, medically, at Johns Hopkins.—The Borden Prize for the best piece of research performed by any member of the class was given to Melvin J. Glimcher for his careful and detailed study of the mechanism and effects of lower limb braces. He is to intern in surgery at the Strong Memorial Hospital in Rochester.—The Maimonides Award offered by the Greater Boston Medical Society for general worthiness rather than scholastic attainment was awarded to Ralston R. Hannas, Jr., an examinee officer who after seven years of service retired with the rank of Lt. Colonel, and who through four years of medical school set a fine example by his character and fortitude under a variety of vicissitudes. He is to have a rotating internship at the University of Kansas Medical Center.—Leonard W. Cronkhite, Jr. was the recipient of a prize offered by the Massachusetts Medical Society to the member of the graduating class who best exemplifies those intangible qualities of the good physician. He, too, is a veteran line officer who was a Colonel when he left the Army to

become a student of medicine and whose record in the latter field promises to make him an unusually valuable member of his community. He will have a medical internship at the Massachusetts General Hospital.—Even the Faculty are not immune to becoming recipients of prizes at this time of year. When the American College of Physicians met in Boston recently, Dr. Joslin gave a clinic in Mechanics Hall before several thousand colleagues. Naturally he talked about diabetes and with his flair for illustrating this disease dramatically, he was accompanied by nearly fifty patients who revealed how diabetes can be accompanied by good health, physical efficiency and productive living for many years. His oldest patient, a diabetic for more than half a century, was ninety years old and able to thread a needle in front of the audience without uncertainty of eye or hand.—Dr. Joslin gave a wonderful and memorable demonstration of patient-to-doctor relationship for clearly each one of all his patients troubling to come to this clinic from all over New England had done so because he wished them to. They were his friends, glad to do anything he asked of them.—They—and, indeed the whole audience—were as much pleased as was he at the close of the exercise when the Belgian consul, Dr. Albert Navez, pinned the Cross of Officer of the Order of Leopold II on his breast as a salute from the Belgian Government.—The Gold Headed Cane of the Royal College of Physicians of London, telling its own story in 1827 said, “It has already been explained how I came to occupy my present position; and having now passed under the splendid portico of this New College, I am afraid there is no chance of ever emerging from the dark recess I occupy in its library.” Nevertheless, in spite of this foreboding, the Cane also came to Boston with other distinguished guests in order to attend the meeting of the American College of Physicians. It comported itself as if it perfectly enjoyed its first trip across the Atlantic Ocean, and as if it had quite forgotten the unpleasantness in its earlier days of the Boston Tea Party.—Thus the academic year 1949-1950 and the one hundred and sixty-sixth year of the School comes to an end.

Alumni Dinner in San Francisco

I would like to call the attention of all the Harvard Medical Alumni Association to the Annual Meeting and Dinner to be held in conjunction with the American Medical Association meeting this *June* in *San Francisco*. The dinner will be held on Wednesday, June 28, at the Palace Hotel. Tickets will be on sale at the convention headquarters.

This year your Committee felt that the meeting should be a social evening, starting with refreshments before the dinner, an excellent dinner, and one speaker whose talk would be short. We believe the importance of this meeting is to renew acquaintances and friendships with your classmates and to give you an opportunity to bring each other up to date.

The speaker for the evening will be Dr. George Packer Berry, new Dean of the Harvard Medical School.

I urge all of you who are at the American Medical Association meeting in San Francisco to make definite plans now to attend the Harvard Medical Alumni Dinner on the evening of June 28. The Committee assures you of a relaxing, informative and entertaining evening.

CHARLES A. NOBLE, JR., 1929, *Chairman*

Alumni Dinner in Los Angeles

A dinner will be held at the Harvard Club on July 6 in honor of Dr. George Packer Berry, Dean of the Harvard Medical School. Any other Harvard alumni in the area are cordially invited to attend and should notify the Secretary, Harvard Club, Loma Street, Los Angeles.

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THE FINANCIAL PLIGHT OF OUR MEDICAL STUDENTS

The years since the war have witnessed a tragic multiplication of the financial difficulties which traditionally beset the average or low-income family seeking to educate a doctor. The rising cost of living is responsible in large measure for this predicament. Other factors are the running out of G.I. benefits held by veterans, the increase in tuition which went into effect in the fall of 1948, and the fact that a considerable amount of scholarship money is restricted by specific conditions which limit its use. Of these, the increase in tuition is much the least important.

Some idea of the magnitude of the problem can be gained from the following figures. Over the years the demand of students for financial aid has increased steadily so that in 1949 over \$126,000.00 was requested; but the judicious use of scholarship and loan funds made reasonable and happy compromises possible. However, in 1950, about \$150,000.00 will be required if the demand is to be adequately met. It is of interest that over two-thirds of the students seeking aid come from families with annual incomes below \$5,000.00 and in most instances there are other children in the family in need of an educational opportunity.

To meet this crisis the Medical School is developing maximal use of scholarship and loan funds. The former are limited and restricted. Medical School scholarship funds will yield about \$24,000.00. The Melvin Fund will supply about \$10,000.00, but this is restricted to students from Massachusetts. National scholarship funds will furnish about \$11,000.00 but only for the benefit of men appointed as National Scholars. The General Scholarship Committee at Harvard will be able to dispense about \$10,000.00, but here again the benefits are restricted to candidates who meet the specific terms of a particular scholarship. In addition to these funds there is hope that about \$10,000.00 more will be available from sources still under exploration, but it is likely that these contributions will be for a few selected students rather than for broad general needs. In round figures about \$65,000.00 will be available from scholarship funds to meet next year's demands.

In addition to scholarship money there are the loan funds. The history of the use of the loan funds is interesting. During the years when a relatively high rate of interest was charged, they were unpopular. In 1942 and 1943 a peak of \$20,000.00 was loaned. A year ago the suggestion was approved that the terms be liberalized (1% until three years after graduation, than 4½%, notes becoming due five years after graduation). This change has made the loan fund much more desirable. Thus, in 1947-48, only \$12,000.00 was borrowed under the old terms while so far this year more than \$28,000.00 has been borrowed under the new terms. It is estimated that \$30,000.00 can be loaned each year under present terms without interference with the revolving nature of the funds.

The combined scholarship and loan funds will provide about \$95,000.00 to meet next year's demands. In order to promote maximum use of these funds the Scholarship Committee proposes as a general plan the policy of using scholarship money for men in the first two years of medical school and loan funds for the upper-classmen.

Scholarships will be given in the upper-classes only to men of outstanding scholastic ability. This policy is in line with Dr. Shattuck's views when he established the Edsall Fund. He felt that loans which could be repaid with interest were a much better form of assistance to medical students in need than are scholarships, especially when the application for financial aid is conditioned by indigence, rather than by scholastic standing. However, in order that no student at graduation may be handicapped by a large and accumulating indebtedness, advanced rather than beginning students will be encouraged to draw on the loan funds.

The sum of \$95,000.00 for financial aid to a student body of a little over 500 seems generous but it is not large enough to meet the demands of the present cost of living and education of a student popula-

tion such as Harvard's, where ability to benefit from their education rather than to pay for it constitutes the basis for admission. If the policy of selecting the best students rather than the most solvent is to continue, new sources of financial aid must become available. The possible role of the Alumni Association as a source for scholarship and loan funds merits careful consideration by the Executive Council and the alumni at large.

In recent years the Alumni Association has given approximately \$2,000.00 annually to the Medical School's General Scholarship Fund. Although small, this contribution, like the Aesculapian Club Scholarship Fund, is of great value because it is an unrestricted fund which can be used at the discretion of the Dean of the Medical School. More money of this kind is sorely needed.



REGINALD FITZ, '09, ASSISTANT DEAN, AT HIS DESK

Book Reviews

THE DIAGNOSIS AND TREATMENT OF ADRENAL INSUFFICIENCY. By George W. Thorn, M.D., with the collaboration of Peter H. Forsham, M.D., and Kendall Emerson, Jr., M.D. 171 pages. Springfield, Illinois: Charles C. Thomas, 1949. Price, \$5.50.

This monograph is one of the American Lecture Series written by authorities in various fields of medicine and the basic sciences. In it Dr. Thorn and his collaborators have supplied a definite need for a concise, modern, and practical guide for the diagnosis and management of adrenal insufficiency. The organization is such that the physician who has been unable to keep completely informed in this rapidly developing field of medicine is oriented from a physiologic and biochemic standpoint before the clinical aspects are discussed. The sections on laboratory findings and diagnostic methods are particularly valuable because they summarize step-wise the tests which, in the authors' extensive experience, can be made to establish a diagnosis with a minimum expenditure of time and money. Similarly, treatment is outlined with specific schedules for the type of substitution preparations, fluid replacement, and diet to be used. These schedules cover all phases of the disease from Addisonian crises, and complicating diseases or surgery to management during the chronic phase. The practicing physician will especially welcome the evaluation of the various adrenal hormones available today, and the comparison of their relative costs.

C. H. BURNETT, M.D.

PRACTICAL NEUROLOGICAL DIAGNOSIS (4th edition). By Roy G. Spurling, M.D. 243 pages and index. Springfield, Illinois: Charles C. Thomas, 1950. Price, \$5.00.

This small text is obviously written by a teacher and written primarily for students, a fact which is even more evident in the Fourth Edition than in those preceding it. It fulfills admirably the purpose proclaimed by the first word of its title. In simple and direct language the anatomy, physiology, and clinical appraisal of the major divisions of the nervous system are discussed in orderly sequence.

The efficiency of this edition as a reference manual for the student first exploring, as well as for the practitioner occasionally coming back to the fundamentals of neurological diagnosis, has been enhanced by the introduction of a

glossary of common neurological terms in addition to the extensive, well-arranged index. Recent knowledge of the significance of the hypothalamus as the central control station of the autonomic nervous system has been added and the section relating to the anatomy and poorly understood function of the cerebellum reorganized and elaborated.

It is difficult in a small medical text to achieve any degree of thoroughness without over-simplifying material or even appearing at times dogmatic. The author has done well in presenting controversial material and material not completely documented in a manner that instructs without preventing individual interpretation and judgment. In addition to the sections on history-taking and neurological examination, spinal fluid and roentgen examination and interpretation are also presented. The reproduction of the x-rays is not always good, but the lucid discussion accompanying them helps overcome this deficiency. Visualization of the intracranial circulation by carotid and vertebral angiography is rapidly becoming as much within the realm of "Practical Neurological Diagnosis" as ventricular pneumography and might well have been included in this edition among the specialized types of roentgen examination.

There are innumerable neurological texts available, but this manual is unique in its organization, readability and simplicity without sacrifice of accuracy. It is attractively printed and bound and contains numerous well-selected illustrations.

DONALD D. MATSON, '39.

THROMBOSIS IN ARTERIOSCLEROSIS OF THE LOWER EXTREMITIES. By Edward A. Edwards, M.D., 70 pages. Springfield, Illinois: Charles C. Thomas, 1950. Price, \$2.00.

The theme of this book is an important one since the majority of acute spontaneous arterial occlusions in the lower extremities are the result of thrombosis superimposed on the pathological vascular changes secondary to arteriosclerosis. Due to the increase of the human life span and since peripheral arteriosclerosis represents one of the degenerative diseases of old age, the condition the author describes is and will become more prevalent. For the most part this treatise gives an excellent description of the pathology, symptomatology and diagnosis. The section on therapy, however, over-emphasizes the role of lumbar sympathectomy in the early treatment of acute vascular occlusion from thrombosis. If this major surgical procedure is performed too soon, gangrene may more often develop than if the less radical methods are used at first. There is no question that in selected

cases sympathectomy offers the patient more than any other type of treatment, but it must be done at the optimum time. It is believed that the use of the anticoagulants and therapeutic intermittent venous occlusion should have been stressed as the best method of immediate treatment, since this will limit the propagation of initial thrombosis which otherwise may extend in the matter of a few hours to produce irreversible vascular changes with resulting gangrene. This emergency form of therapy is especially of value for the average doctor who is not competent to perform a sympathectomy. The dire results of poorly timed sympathectomies are illustrated well in the report of Case Number 17.

It is timely, however, that this short treatise has been written with the case records to emphasize further the importance of the symptom complex of peripheral arterial thrombosis. Since at the present time the etiological factors and therefore the prophylaxis of arteriosclerosis are not fully understood, every effort must be made to educate physicians and surgeons as to the dire results of arterial thrombosis.

ROBERT R. LINTON, '25.

RESUSCITATION AND ANESTHESIA FOR WOUNDED MEN—THE MANAGEMENT OF TRAUMATIC SHOCK. By Henry K. Beecher, A.M., M.D., 151 pages. Springfield, Illinois: Charles C. Thomas, 1949. Price, \$5.50.

This monograph is an account of some of the author's experience as Consultant in Resuscitation and Anesthesia in the Mediterranean Theater of Operations in World War II. As stated in the preface, "It is almost entirely a compilation of articles I wrote during the war on the care of the patient, rather specialized care of a particular kind of patient. Much has been written on the care of the wounded; but there is curiously little on the crucial interval that exists from the time the enemy's missile strikes until the surgeon repairs the wound. It is in this period that the wounded soldier's struggle for life is most acute. This book deal with the patient's care during this critical period."

The volume is made up of four Sections followed by an excellent index. Illustrations are numerous and good and the paper and printing above average. Graphs and tables supplement the written description throughout the monograph with only occasional tables being difficult because of complexity to easily comprehend.

Section I, "The Wounded Man—His Mental and Physical State" compares the changes entertained during the 30 month Mediterranean Campaign and describes the various problems faced by the wounded man: his emotional upheavals, his reaction to painful states, and other factors that influence the soldier after being wounded. A brief and useful method of evaluating a wounded man's condition concludes this Section.

Section II, "Physiological Derangements in the Wounded Found on Forward Hospital Admission" contains much useful information gleaned from various laboratory procedures. This is perhaps the most important portion of the volume.

Section III, "Treatment of Wounded Men" adequately summarizes the various therapeutic measures in the immediate treatment of the seriously wounded. Special emphasis is devoted to delayed morphine poisoning, the use of hypnotics for the relief of anxiety and the importance of factors other than the restoration of fluid balance.

Section IV, "Anesthesia for the Wounded" describes the painfully limiting factors in administering good anesthesia in combat. The usefulness and limitations of ether and pentothal are emphasized. Supportive therapy during anesthesia is briefly mentioned. The use of cyclopropane, ethylene and curare is not mentioned since these agents were not available.

The monograph's most serious limitation has been described by the author in the preface, "This small book has been prepared with scissors and a pot of glue. Hardly at all with a pen". This lack of editing is clearly manifest but does not seriously distract from the reliable elucidation of resuscitation that is presented and progress that was made in this field. This volume can be recommended to those physicians who are interested in lessons learned in the management of traumatic shock during World War II. These lessons are well worth applying in the present day treatment of seriously injured individuals.

ROBERT C. PETERSON, M.D.

RALPH M. TOVELL, M.D.



